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## Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-76. (canceled)

- 77. (previously presented) A composition for local drug delivery comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a monomeric bone-cement component,

wherein the polymeric bone-cement component comprising the anti-resorptive agent is uniformly mixed with the monomeric bone-cement component to effect a polymerization reaction to obtain a polymerized bone-cement matrix,

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agents added to the polymeric bone-cement component does not weaken the bone-cement component or polymerized bone-cement matrix, or

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interfere with polymerization reaction of the bone-cement components, and

wherein the polymerization of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agents.

- 78. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is a bisphosphonate or a pharmaceutically acceptable salt or ester thereof.
- 79. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is pamidronate or pharmaceutically acceptable salt or ester thereof.
- 80. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is etidronate or a pharmaceutically acceptable salt or ester thereof.
- 81. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is alendronate or a pharmaceutically acceptable salt or ester thereof.
- 82. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is zoledronate or a pharmaceutically acceptable salt or ester thereof.
- 83. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is gallium fluoride.

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84. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is a cholesterol-lowering agent.

- 85. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is an estrogen-bisphosphonate conjugate.
- 86. (previously presented) The composition of claim 77, wherein the bone-cement is an acrylic bone-cement or a hydroxyapatite bone-cement.
- 87. (previously presented) The composition of claim 77, wherein the bone-cement is polymethylmethacrylate and the anti-resorptive agent is pamidronate or a pharmaceutically acceptable sale or ester thereof.
- 88. (previously presented) The composition of claim 77, wherein the bone-cement is polymethylmethacrylate and the anti-resorptive agent is zoledronate, zoledronic acid, or a pharmaceutically acceptable salt or ester thereof.
- 89. (previously presented) The composition of claim 77, wherein 65 to about 70 percent of the polymeric bone-cement particles and the anti-resorptive agents have an average diameter of about 25 microns.
- 90. (previously presented) The composition of claim 77, wherein 30 to about 35 percent of the polymeric bone cement particles and the anti-resorptive agents are about 13 to about 17 microns in diameter.

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91. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is present on the outer surface of the polymerized bone-cement matrix, or is uniformly distributed around the surface of the polymerized bone-cement matrix.

- 92. (previously presented) The composition of claim 77, wherein the anti-resorptive agent is impregnated throughout the polymerized bone-cement matrix after polymerization reaction.
- 93. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) an organic cement, (2) an inorganic cement, and (3) a composite cement,

wherein the anti-resorptive agent is present in an amount that does not compromise the cement's chemical or mechanical

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properties but sufficient to prevent loosening of the bone cement from the living bone;

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component, and

wherein the polymerization reaction of the components of the bone-cement does not chemically interfere with or inactivate the anti-resorptive agent.

- 94. (previously presented) The composition of claim 93, wherein the amount of the anti-resorptive agent is about 0.067 grams to about 6.67 grams per 40 grams of bone cement.
- 95. (previously presented) The composition of claim 93, wherein the cement is an organic cement and the anti-resorptive agent is pamidronate in an amount from about 3% to 3.5% by weight of the composition.
- 96. (previously presented) The composition of claim 93, wherein the amount of the anti-resorptive agent is about 0.67 micrograms to about 3.33 milligrams per 40 grams of bonecement.
- 97. (previously presented) The composition of claim 93, wherein the amount of the anti-resorptive agent is about 1.34 micrograms to about 0.2 milligrams per 40 grams of bonecement.

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- 98. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is a bisphosphonate or a pharmaceutically acceptable salt or ester thereof.
- 99. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is pamidronate or a pharmaceutically acceptable sale or ester thereof.
- 100. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is etidronate or a pharmaceutically acceptable sale or ester thereof.
- 101. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is alendronate or a pharmaceutically acceptable sale or ester thereof.
- 102. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is zoledronate or a pharmaceutically acceptable salt or ester thereof.
- 103. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is gallium fluoride.
- 104. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is a cholesterol-lowering agent.
- 105. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is an estrogen-bisphosphonate conjugate.

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106. (previously presented) The composition of claim 93, wherein the bone-cement is an acrylic bone-cement or hydroxyapatite bone-cement.

- 107. (previously presented) The composition of claim 93, wherein the bone-cement is polymethylmethacrylate and the anti-resorptive agent is pamidronate or a pharmaceutically acceptable salt or ester thereof.
- 108. (previously presented) The composition of claim 93, wherein the bone-cement is polymethylmethacrylate and the anti-resorptive agent is zoledronate, zoledronic acid, or a pharmaceutically acceptable salt or ester thereof.
- 109. (previously presented) The composition of claim 93, wherein the anti-resorptive agent is present in an amount that is not toxic to osteoblast while toxic to osteoclasts.
- 110. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) an organic cement, (2) an inorganic cement, and (3) a

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composite cement, wherein the anti-resorptive agent is selected from the group consisting of a salt of a Group IIIA element, a cholesterol-lowering agent, a chemotherapeutic agent-bisphosphonate conjugate, and an estrogen bisphosphonate conjugate,

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component, and

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent.

- 111. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) a mixture comprising an acrylate monomer and a copolymer

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wherein the copolymer comprises (A) an acrylate or methylmethacrylate monomer and (B) an acrylonitrile, butadiene, styrene, vinyl chloride, vinylidene chloride, or vinyl acetate monomer; (2) an inorganic cement; and (3) a composite cement,

wherein the anti-resorptive agent is selected from the group consisting of a salt of a Group IIIA element; a cholesterollowering agent; an estrogen-bisphosphonate conjugate; and a bisphosphonate wherein the bisphosphonate is selected from pamidronate; the group consisting of alendronate; ibandronate; zoledronate; olpadronate; risedronate; icandronate; neridronate (6-amino-1-hydroxyexilidene-1, 1 bishphosphonate); dichloromethane bisphosphonic amino-1-hydroxypropane-1,1-bisphosphonic acid; 6-amino-1acid; 4-amino-1hydroxyhexane-1,1-bisphosphonic 2-(3-pyridy1)-1hydroxybutane-1, 1-bisphosphonic acid; 2-(N-imidazoyl)-1hydroxyethane-1,1-bisphosphonic acid; hydroxyethane-1,1-bisphosphonic acid; 3-(N-pentyI-Nmethylamino) -1-hydroxypropane-1,1-bisphosphonic acid; 3-(N-Npyrollidino) -1-hydroxypropane-1,1-bisphosphonic acid: S-(pcycloheptylaminomethanebisphosphonic acid; acid; 4-amino-1chlorophenyl) thiomethane-bisphosphonic acid; (7-dihydro-1hydroxybutyliden-1, 1-bisphosphonic pyrindine) methane bisphosphonic acid; (7-dihydro-1pyrindine) hydroxymethane bisphosphonic acid; (6-dihydro-2pyrindine) hydroxy-mehanebisphosphonic 2-(6acid; pyrolopyridine)-1-hydroxyethane-1,1-bisphosphonic acid; and pharmaceutically acceptable salts and esters thereof,

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wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component, and

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent.

- 112. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) an organic cement, (2) an inorganic cement, and (3) a composite cement,

wherein the anti-resorptive agent is a bisphosphonate selected from the group consisting of olpadronate;

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icandronate; neridronate; 6-amino-1-hydroxyhexane-1,1bisphosphonic acid; 2-(3-pyridyl)-1-hydroxyethane-1,1bisphosphonic acid; 2-(N-imidazoyl)-1-hydroxyethane-1,1bisphosphonic acid: 3-(N-pentyI-N-methylamino)-1hydroxypropane-1,1-bisphosphonic acid; 3-(N-pyrollidino)-1hydroxypropane-1,1-bisphosphonic acid; 4-amino-1hydroxybutylidene-1,1-bisphosphonic acid; (7-dihydro-1pyrindine) methane bisphosphonic acid; (7-dihydro-1pyrindine) hydroxymethane bisphosphonic acid; (6-dihydro-2pyrindine) hydroxy-methanebisphosphonic acid; pyrolopyridine) -1-hydroxyethane-1,1-bisphosphonic acid; and pharmaceutically acceptable salts and esters thereof, and

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component, and

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent.

113. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:

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(a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and

(b) a bone-cement selected from the group consisting of (1) an organic cement, (2) an inorganic cement, and (3) a composite cement,

wherein the anti-resorptive agent is a bisphosphonate selected from the group consisting of dichloromethane bisphosphonic acid; N-cycloheptylaminomethanebisphosphonic acid; and S-(p-chlorophenyl) thiomehtane-bisphosphonic acid; and pharmaceutically acceptable salts and esters thereof, and

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component,

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent, and

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wherein the anti-resorptive agent is uniformly distributed throughout the polymerized bone-cement by first mixing the polymeric bone-cement component of the bone-cement with the anti-resorptive agent prior to polymerization reaction.

- 114. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) and organic cement, (2) an inorganic cement, and (3) a composite cement,

wherein the anti-resorptive agent is a bisphosphonate selected from the group consisting of 1-hydroxyethane-1,1-bisphosphonic acid; 3-amino-1-hydroxypropane-1,1-bisphosphonic acid; 4-amino-1-hyroxybutane-1,1-bisphosphonic acid; and pharmaceutically acceptable salts and esters thereof, and

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

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wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component,

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent, and

wherein the anti-resorptive agent is uniformly distributed throughout the polymerized bone-cement by first mixing the polymeric bone-cement component of the bone-cement with the anti-resorptive agent prior to polymerization reaction.

- 115. (previously presented) A composition for arresting the process of aseptic loosening attributed to osteoclasts comprising:
  - (a) a mixture comprising an anti-resorptive agent having a particle-size distribution which is about the same or less than that of a polymeric bone-cement component to provide for even distribution of the anti-resorptive particles throughout a polymerized bone-cement matrix after polymerization reaction; and
  - (b) a bone-cement selected from the group consisting of (1) an organic cement, (2) an inorganic cement, and (3) a composite cement,

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wherein the anti-resorptive agent is a bisphosphonate selected from the group consisting of zoledronate, zoledronic acid, and pharmaceutically acceptable salts and esters thereof, and

wherein the anti-resorptive agent is present in an amount that does not compromise the bone cement's chemical or mechanical properties,

wherein the amount of anti-resorptive agent does not weaken the bone-cement component or interfere with polymerization reaction of the bone-cement component, and

wherein the polymerization reaction of the bone cement components does not chemically interfere with or inactivate the anti-resorptive agent.

## 116. (canceled)

117. (previously presented) The composition of claim 77 produced by the steps of: (a) mixing a polymer component with an anti-resorptive amount of an anti-resorptive agent to form a mixture; and (b) adding a liquid monomer component to the mixture.

## 118-121. (canceled)

122. (previously presented) The composition of claim 77, wherein the amount of the anti-resorptive agent is about 1 microgram to about 11 grams per 60 grams of bone cement.

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123. (previously presented) The composition of claim 77, wherein the amount of the anti-resorptive agent is about 0.1 grams to about 10 grams per 60 grams of bone cement.

- 124. (previously presented) The composition of claim 77, wherein the amount of the anti-resorptive agent is about 0.5 grams per 60 grams of bone cement.
- 125. (previously presented) The composition of claim 77, wherein the amount of the anti-resorptive agent is about 1 microgram to about 5 milligrams per 60 grams of bone cement.